

Las directivas europeas de Seguridad Eléctrica

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LEGISLACION

LEGISLACION DEBE SER

- ➡ Clara, flexible, adaptable a los cambios tecnologicos;
- ➡ Proporcional a los objetivos, sencilla, justa;
- ➡ Limitada a lo esencial;

NUEVO ENFOQUE UE ES UN EXITO

- ➡ **25 SECTORES : LVD, EMC, Maquinas, Ascensores, Telecomunicacion, etc.**
- ➡ **25 PAISES UE ARMONIZADOS**
- ➡ **TECNOLOGICAMENTE NEUTRO;**
- ➡ **Flexibilidad PARA LOS FABRICANTES: uso de normas armonizadas, la mayoría identicas a normas internacionales.**

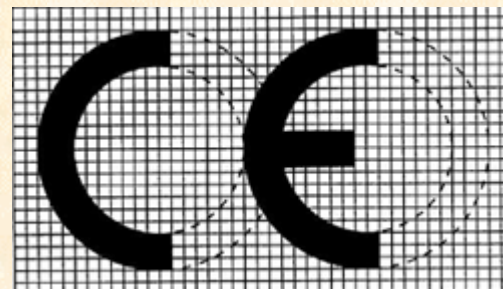
El Nuevo Enfoque en Legislación

Objetivo: libre circulación de productos basada en un nivel alto de seguridad y protección.



Elementos del Nuevo Enfoque

- ➡ **Requisitos esenciales (obligatorios).
No detallados técnicamente**
- ➡ **Normas armonizadas (voluntarias):
presupuesto de conformidad a los requisitos
esenciales**
- ➡ **Certificación (conformidad)**
- ➡ **Mercado CE =====>**
- ➡ **Control y vigilancia del mercado**



Requisitos esenciales

- ➡ **Objetivos esenciales para garantizar alto nivel de proteccion**
- ➡ **Tecnologicamente neutros, no prescriben la solucion tecnica**
- ➡ **Son obligaciones cuya implementacion pueda ser uniforme en el mercado**

Normas armonizadas europeas

- ☞ Especificacion tecnica adoptada por los organismos europeos de normalizacion (CEN, CENELEC, ETSI)
- ☞ Adoptadas por acuerdo mutuo a traves de proceso transparente
- ☞ Preparadas y adoptadas por la industria y no por las autoridades publicas



Normas armonizadas europeas

- ☞ **Son UNA solución técnica a los requisitos esenciales, pero son VOLUNTARIAS**
- ☞ **Presunción de conformidad a los RE = la carga de la prueba es para la autoridad nacional**



Certificación

**Módulos de evaluación de conformidad
PROPORCIONALES a los riesgos emanantes del
producto.**

**Auto-declaración del fabricante en muchos casos
(module A).**

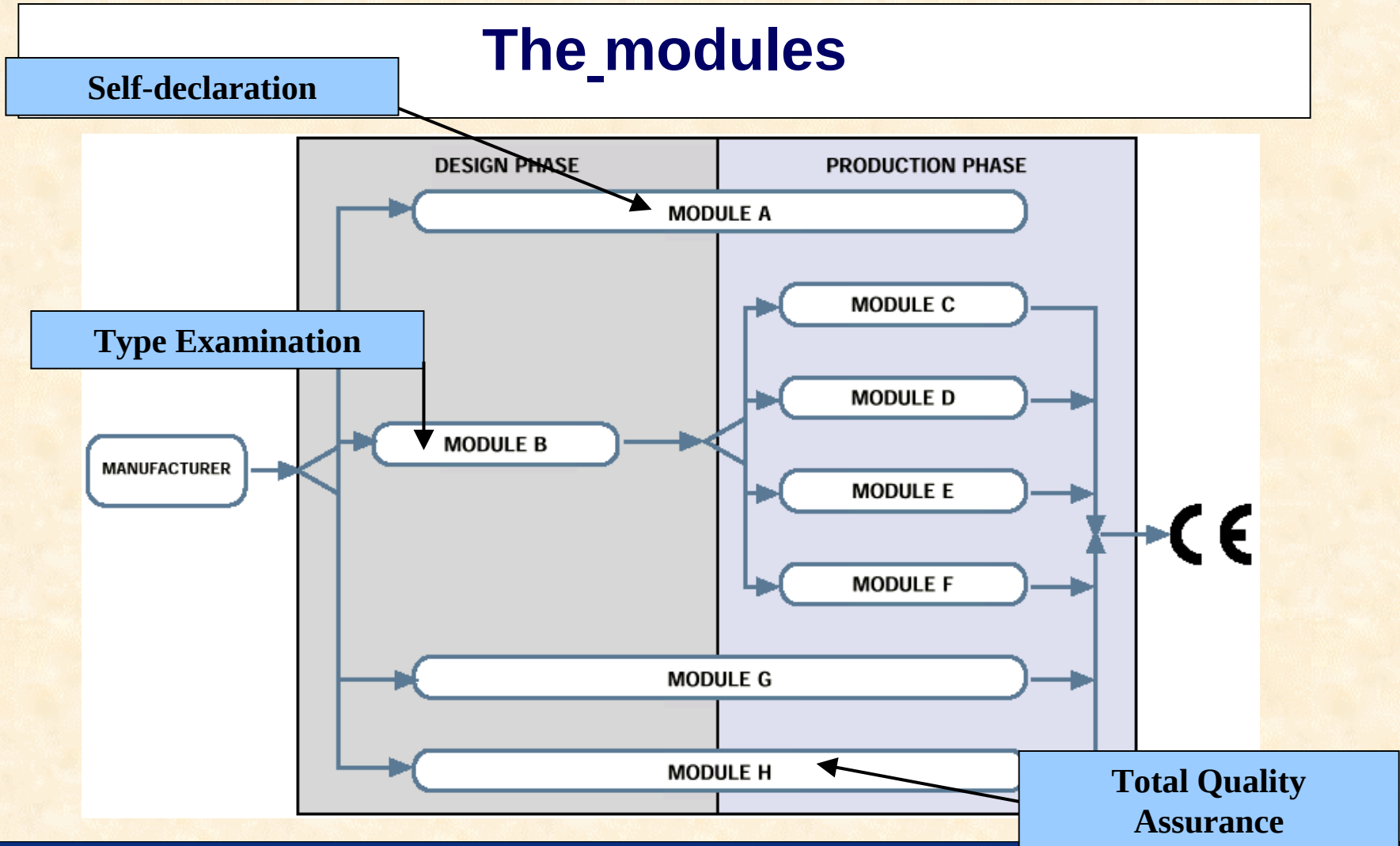
**Certificación por tercera parte (organismos
notificados) para productos particularmente
peligrosos.**

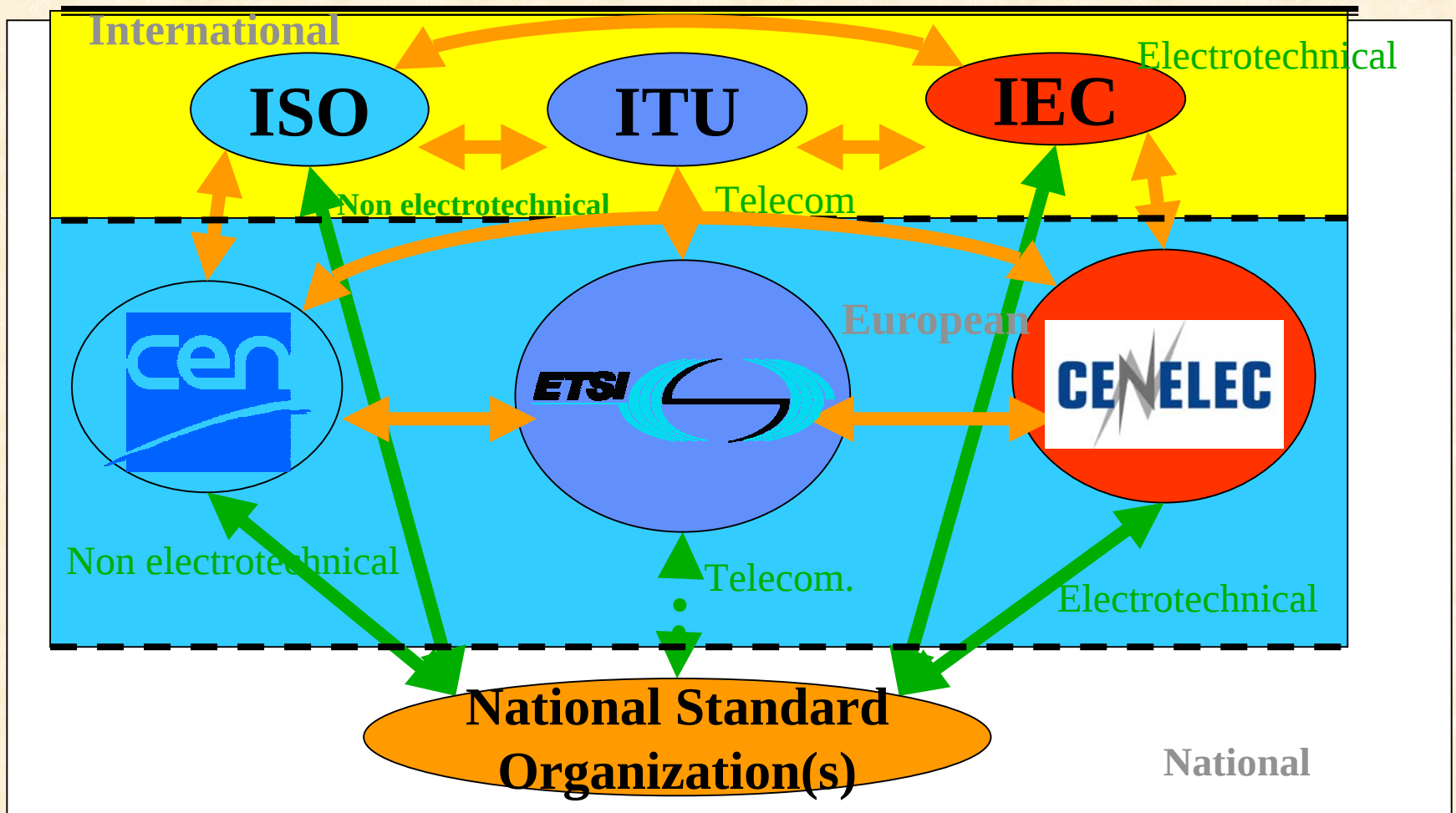
**Declaración de conformidad CE
Marcado CE (marca de conformidad).**



Conformity assessment and CE marking

The modules

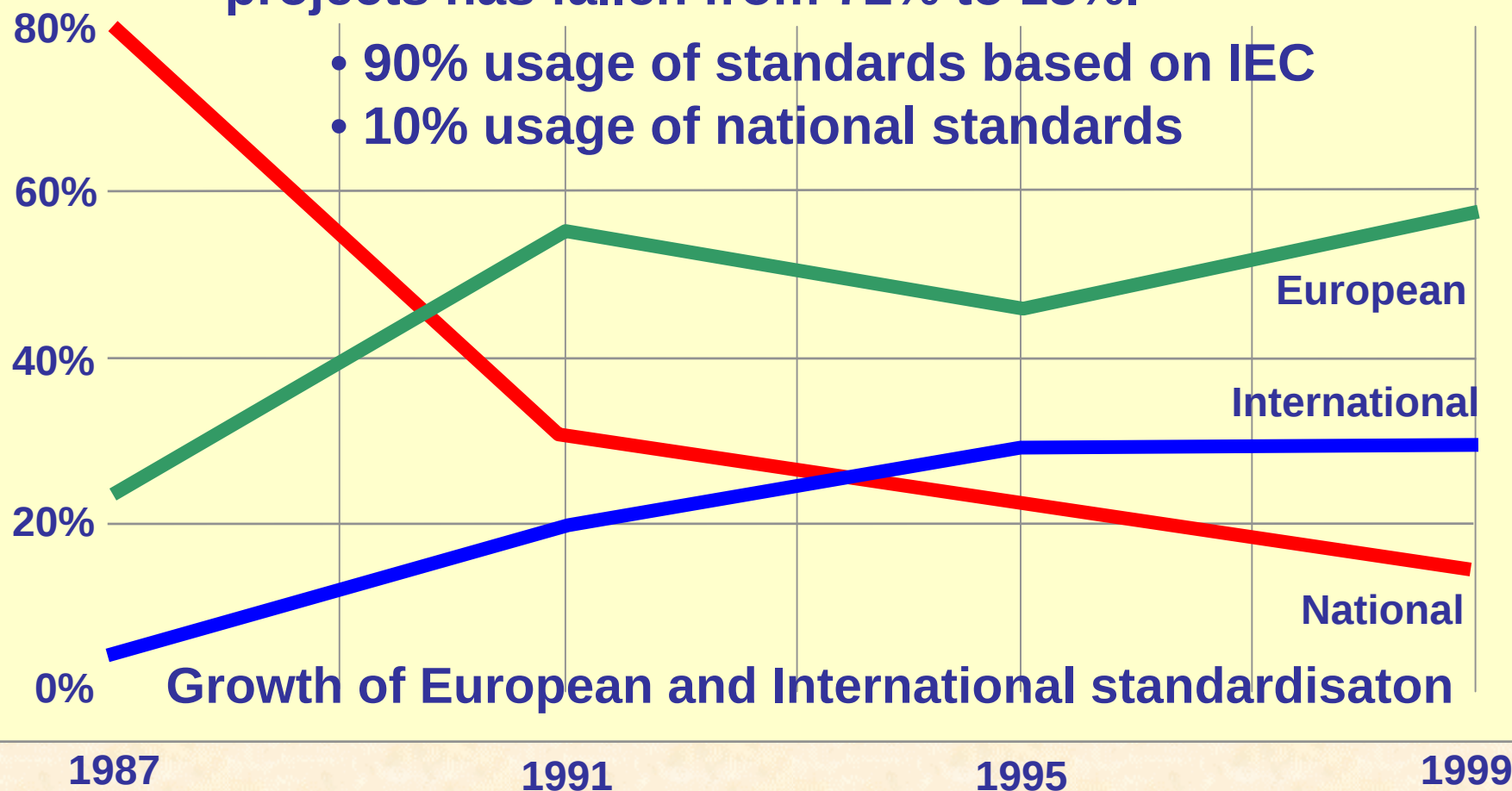




National, European, international electrical standards

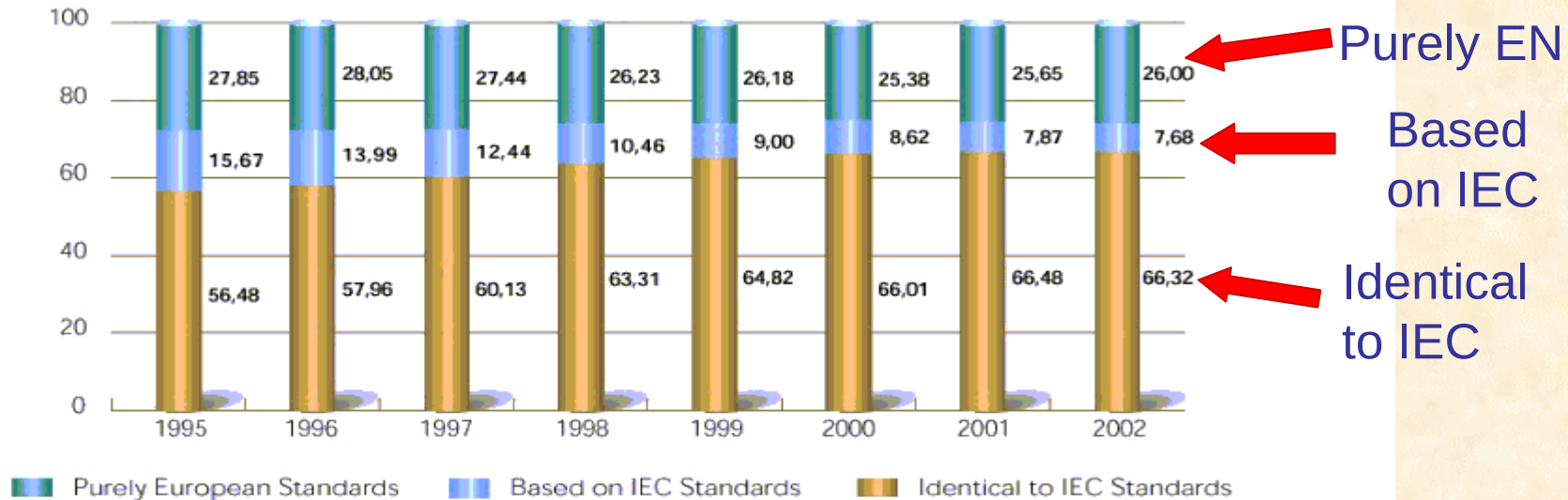
The percentage of purely national standards projects has fallen from 72% to 18%.

- 90% usage of standards based on IEC
- 10% usage of national standards



European Standards and their relation to international IEC standards

Evolution of the equivalence between active CENELEC standards and IEC standards since 1995



El Nuevo Enfoque

How does New Approach work in practice?

Example:



Microwave oven

How to deal with the risk of microwave radiation?

requisito esencial: risk of radiation

**La Directiva de baja tensión
(73/23/EEC)**



**El requisito esencial:
Protección contra los peligros provenientes del
propio material eléctrico - Se preverán medidas de
índole técnica conforme al punto 1, a fin de que
no se produzcan radiaciones peligrosas;**

Harmonised standard

=> technical specification

European harmonised Standard:

EN 60335-2-25: Aparatos electrodomésticos y análogos - Requisitos particulares para hornos microondas incluyendo los hornos microondas combinados

“Las fugas de microondas, en cualquier punto a una distancia mínima de 50 mm de la superficie exterior del aparato, no deben ser superiores a 50 W/m².”

The EMC Directive

Objective

-  Ensure the functioning of the Internal Market,
-  Ensure an adequate level of Electromagnetic Compatibility.

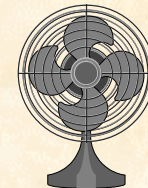
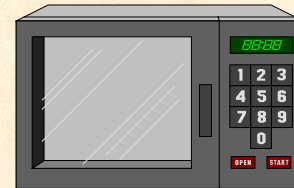
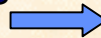
Impact :

-  The EMC Directive potentially affects 800 Million products placed onto the EEA market per year.
-  The costs of compliance with the current EMC Directive ranges from 1% to 3% of product price.
-  60% of the products are from small & medium size enterprises.

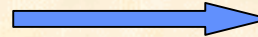
Scope of the EMCD

Applies to apparatus :

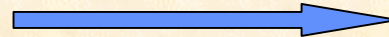
- all electrical and electronic appliances
- equipment and installations containing electrical and/or electronic components



- liable to generate electromagnetic disturbance, or



- the performance of which is liable to be affected by such disturbance



RTTED

Essential requirements

Art 4, Annex III EMCD

Protection requirements

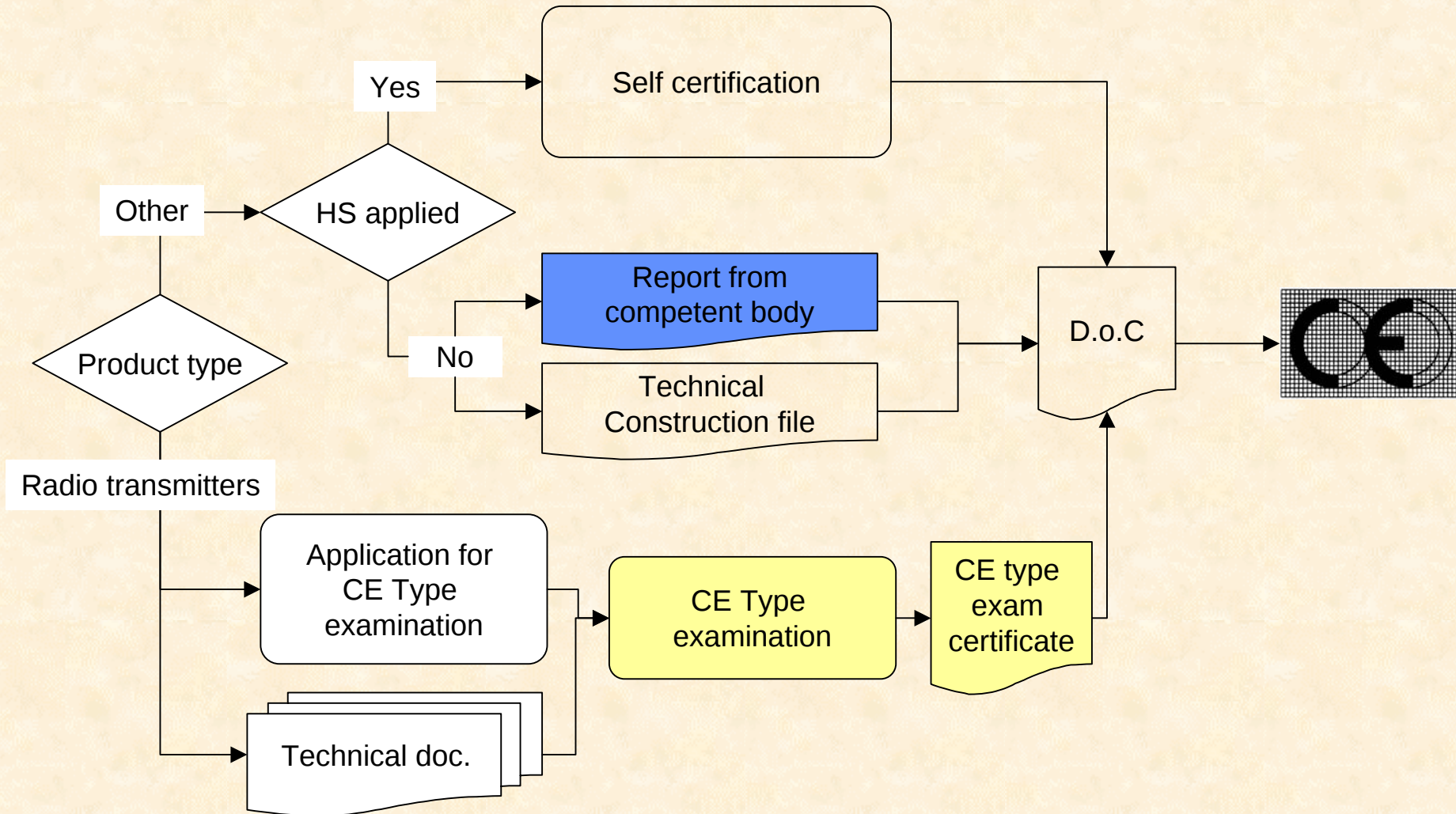
emission

to ensure that EM disturbances produced by electrical and electronic apparatus do not affect the functioning of other apparatus as well as radio and telecommunication networks, related equipment and electricity distribution networks

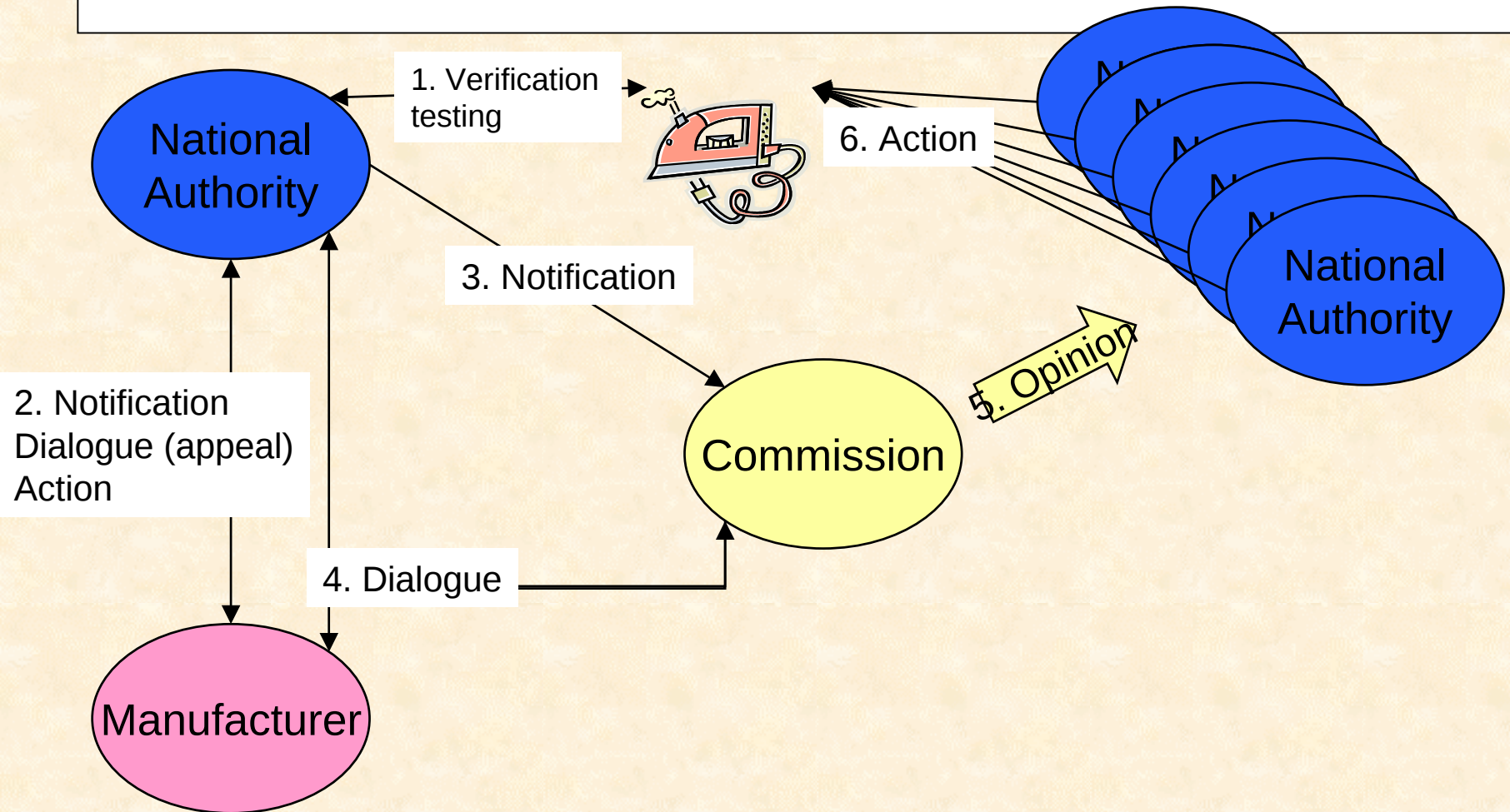
immunity

to ensure that the apparatus has an adequate level of intrinsic immunity to enable it to operate as intended

EMC Conformity assessment procedures



Market surveillance – EU consistency



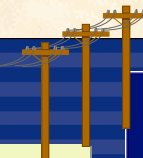
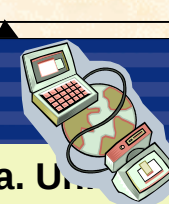
New EMCD: Clarification of the scope

☞ Apparatus

- ☞ Electrical and electronic appliance
- ☞ Component (a component intended for incorporation by the end user : e.g a CD-ROM drive)
- ☞ Mobile installation

☞ Fixed installation : many apparatus or component assembled and installed at a predefined location

- ☞ Large machines
- ☞ Networks (electricity, telecom networks)



New EMCD: Information requirements

- ➡ Identification of the apparatus (type, batch, serial number)
- ➡ Identification of the manufacturer (name/address) **and** authorized representative / responsible of placing the apparatus on the market (if non-EC manufacturer)
- ➡ Information on specific precautions on assembly, installation, use and maintenance
- ➡ Information on the packaging if not intended for use in residential areas
- ➡ All information required to enable use in accordance with the intended purpose must be given in the user instructions.

New EMCD : Conformity assessment procedure for apparatus

☞ Unique :

- ☞ Suppression of EC type examination certificate
- ☞ Suppression of competent body
- ☞ Optional intervention of notified body

☞ Conformity :

- ☞ assessed by manufacturer
- ☞ Demonstrated through technical documentation
- ☞ Attested through a declaration of conformity.
- ☞ Prior to affix the CE marking

- ☞ Technical documentation and declaration of conformity made available ten years after the last apparatus has been manufactured
- ☞ Manufacturing process shall ensure all products are compliant with the Directive

R&TTE directive

- ☞ **Scope R&TTE: terminal equipment + all radio equipment (harmonised and non-harmonised frequency bands) with some minor exceptions**
- ☞ **Scope EMC: electrical equipment causing EMC disturbance**
- ☞ **No further national approval regulations**
 - ☞ but remember: the R&TTE Directive will NOT harmonise spectrum use!
- ☞ **Community principles applied: free movement unless a MS has good reasons to bar products (notably radio)**
- ☞ **Safeguards for protecting spectrum**

Essential requirements of the R&TTE Directive:

-  Electrical Safety and health (as in Low Voltage Directive, 73/23/EEC),
-  ElectroMagnetic Compatibility (as in EMC Directive, 89/336/EEC)
-  Spectrum use (effective use so as to avoid harmful interference)
-  possibility to define some additional public interest requirements:
 - End-to-end interworking
 - No network harm
 - privacy protection
 - avoidance fraud
 - access emergency services
 - Features for the disabled
-  Needs to operate properly in nationally defined radio spectrum (access via R&TTE website)

**Decisions on application for:
maritime equipment
inland waterways
avalanche beacons**

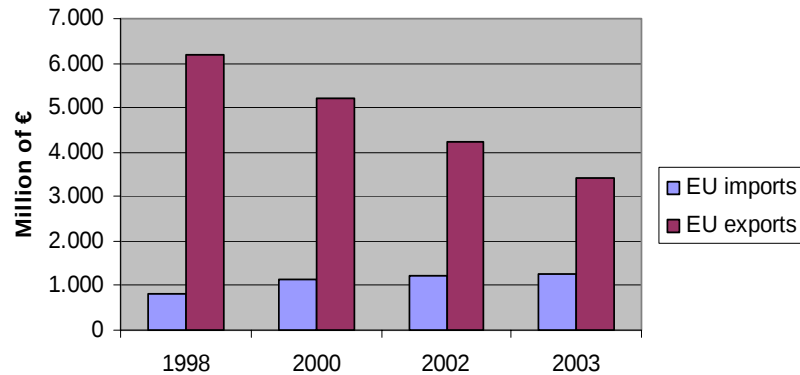
Ventajas del Nuevo Enfoque

- ✱ costos de cumplimiento ligeros para los fabricantes; responsabilización de fabricantes en política de calidad y seguridad;
- ✱ impulso a la normalización internacional;
- ✱ estímulo a la innovación;
- ✱ mayor competitividad en el mercado mundial.

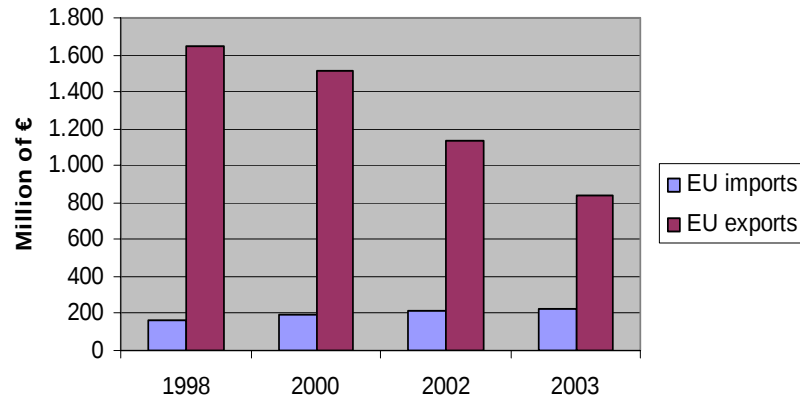


EU – MERCOSUR trade

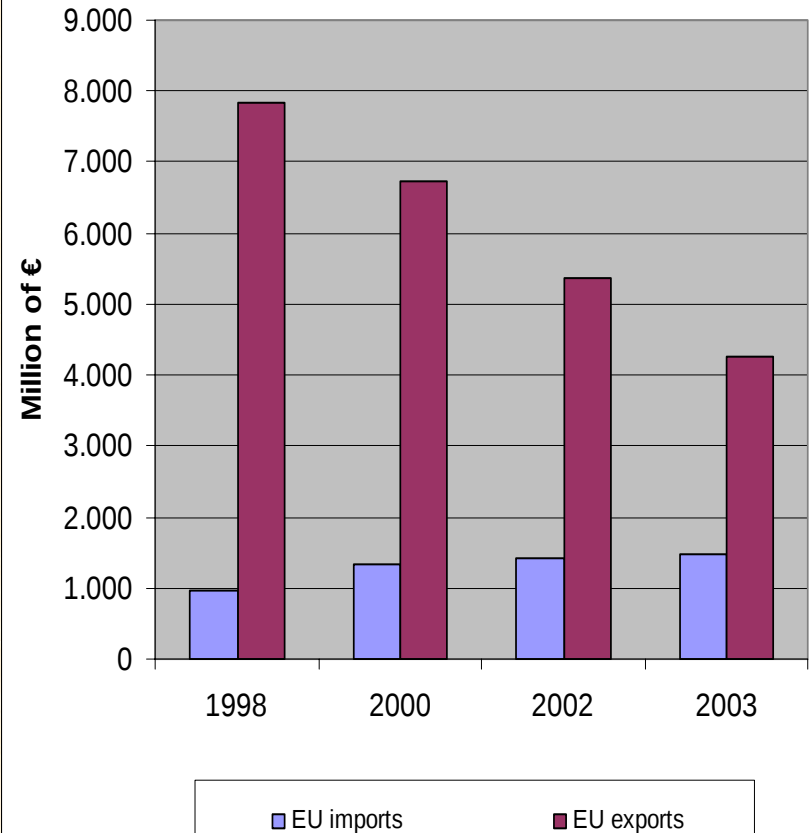
Trade in Mechanical Engineering products



Trade in Electrical Engineering products



Total trade in Engineering products



Gracias por su atencion

Further information:

http://europa.eu.int/comm/enterprise/electr_equipment/index.htm

http://europa.eu.int/comm/enterprise/mechan_equipment/index.htm

<http://europa.eu.int/comm/enterprise/rtte/index.htm>

http://europa.eu.int/comm/enterprise/atex/index_en.htm

http://europa.eu.int/comm/enterprise/eco_design/index.htm